

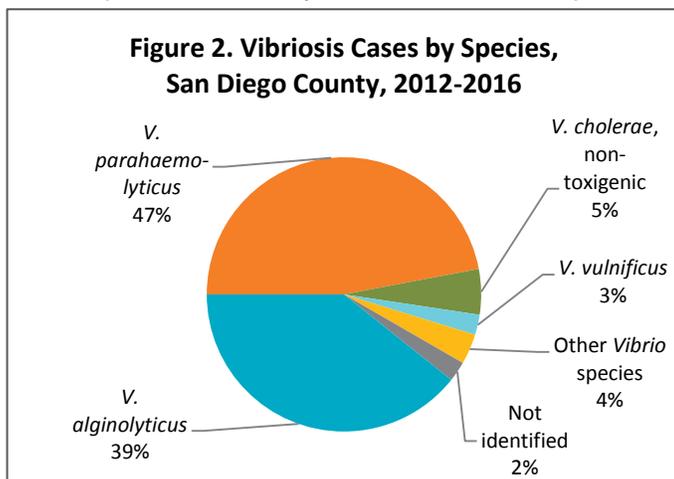
### VIBRIOSIS

Vibriosis can be caused by approximately a dozen different species of *Vibrio* bacteria, which are naturally occurring in marine coastal environments. People usually become infected when they consume raw or undercooked seafood, primarily oysters, or when a new or preexisting wound comes into contact with brackish or salt water. Vibriosis is not transmitted person-to-person.

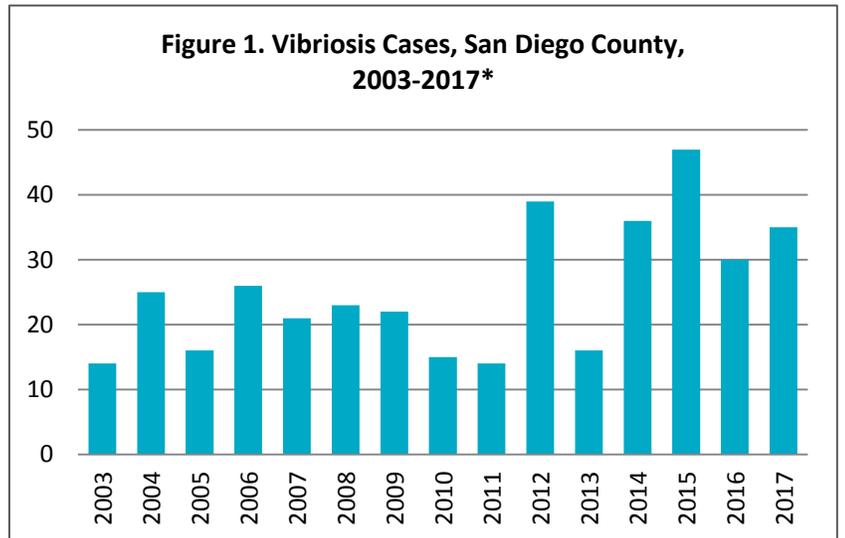
Vibriosis causes three main clinical syndromes: intestinal illness, characterized by diarrhea and abdominal cramps; skin, wound, or ear infection; and septicemia, characterized by fever, chills, hypotension, and blistering lesions. The first two syndromes can lead to the third, a bloodstream infection, which can be fatal. Septicemia is more common in persons who are immune compromised or have underlying conditions such as chronic liver disease or alcoholism.

Vibriosis is distinct from cholera, which is caused by toxigenic forms of *Vibrio cholerae* O1 and O139. Although now rare in the United States and other industrialized nations, cholera has historically caused many epidemics and remains endemic in parts of Africa and Asia. Illness caused by non-O1/non-O139 strains of *V. cholerae* and strains of O1 and O139 that do not produce the cholera toxin are classified as vibriosis rather than cholera.

The Centers for Disease Control and Prevention (CDC) estimates that there are approximately 80,000 *Vibrio* infections a year in the United States, though most are not diagnosed or reported. In 2016, 1,090 vibriosis cases were reported nationally, 126 cases were reported in California, and 30 cases were reported in San Diego County.



Data current as of 9/15/2017. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.



\*2017 data are year-to-date; data current as of 9/15/2017. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.

The *Vibrio* species that most commonly cause illness in the United States are *V. parahaemolyticus*, *V. alginolyticus*, and *V. vulnificus*. While *V. parahaemolyticus* usually causes intestinal illness after ingestion of the bacteria, it can also cause wound infections via contact with marine water. In contrast, *V. alginolyticus* almost exclusively causes wound or ear infections. *V. vulnificus* is the species most likely to cause serious, life-threatening infections in those with underlying conditions.

Infections caused by *V. parahaemolyticus* and *V. alginolyticus* were most common in San Diego County from 2012-2016, accounting for 86% of the reported cases.

*Continued on next page*

The Monthly Communicable Disease Surveillance Report is a publication of the County of San Diego Public Health Services Epidemiology and Immunization Services Branch (EISB). EISB works to identify, investigate, register, and evaluate communicable, reportable, and emerging diseases and conditions to protect the health of the community. The purpose of this report is to present trends in communicable disease in San Diego County. To subscribe to this report, send an email to [EpiDiv.HHSA@sdcounty.ca.gov](mailto:EpiDiv.HHSA@sdcounty.ca.gov).



### VIBRIOSIS, continued

An additional 8% of cases were caused by *V. vulnificus* and non-toxicogenic *V. cholerae*. The proportion of cases with no species identified has increased from 2% over the previous five years to 26% in 2017 (year to date) due to the adoption of culture-independent diagnostic testing methods.

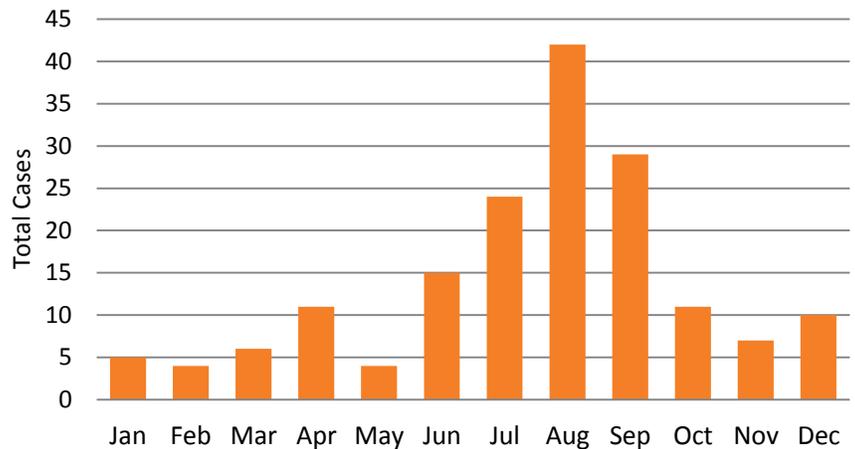
*Vibrio* bacteria proliferate in warmer water. In the United States, most infections occur during the warmer months of May through October. San Diego County infections follow the same pattern, with 74% of 2012-2016 infections occurring during those months, peaking in August.

Oysters, which live in the same coastal waters inhabited by *Vibrio*, present a particular risk for vibriosis when eaten raw. Oysters are filter-feeders, filtering water through their gills and in the process potentially concentrating bacteria in their tissues. The only way to kill the *Vibrio* bacteria and prevent infection is to [cook oysters properly](#).

Although vibriosis cases occur year-round and infections have occurred in persons consuming raw oysters from oyster beds in many different locations, levels of *Vibrio* bacteria can be particularly high in the Gulf of Mexico during the summer. In 2003, California [prohibited the sale](#) of oysters harvested from the Gulf of Mexico between April and October, unless they have been processed so *Vibrio* are [undetectable](#). Subsequently, cases of severe *Vibrio* infection have declined in California.

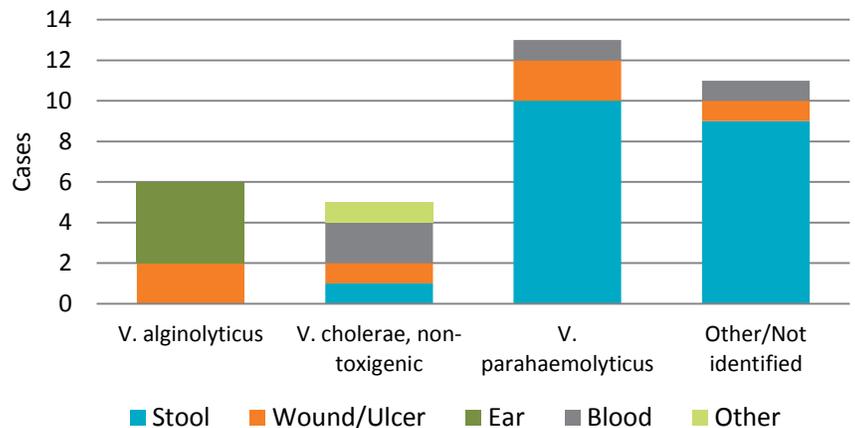
Thus far in 2017, 35 cases of vibriosis have been reported in San Diego County. This is more than the total annual cases in 2016 and in all but a few other years in the past decade. Nearly 40% of the 2017 cases were caused by *V. parahaemolyticus*, most frequently detected in stool. Fifty percent of 2017 cases with *Vibrio* detected in stool reported eating raw oysters.

**Figure 3. Vibriosis Cases by Month of Onset\*  
San Diego County, 2012-2016**



\*When onset date was not available, date of specimen collection was used. Data current as of 9/15/2017. Data are provisional and subject to change as additional information becomes available.

**Figure 4. Vibriosis Cases by Species and Specimen Type,  
San Diego County, 2017\***



\* 2017 data are year-to-date; data current as of 9/15/2017. Data are provisional and subject to change as additional information becomes available.

#### Federal Resources

- [Centers for Disease Control and Prevention \(CDC\) Vibrio Species Causing Vibriosis website](#)
- [CDC Vibrio and Oysters website](#)
- [CDC Cholera and Other Vibrio Surveillance \(COVIS\) website](#)
- [CDC Cholera – Vibrio cholerae infection website](#)
- [Interstate Shellfish Sanitation Conference](#)

#### State Resources

- [California Department of Public Health \(CDPH\) Vibriosis \(Non-Cholera\) website](#)
- [CDPH Shellfish Program website](#)

# MONTHLY COMMUNICABLE DISEASE REPORT

AUGUST 2017

Volume 1, Issue 8: September 15, 2017

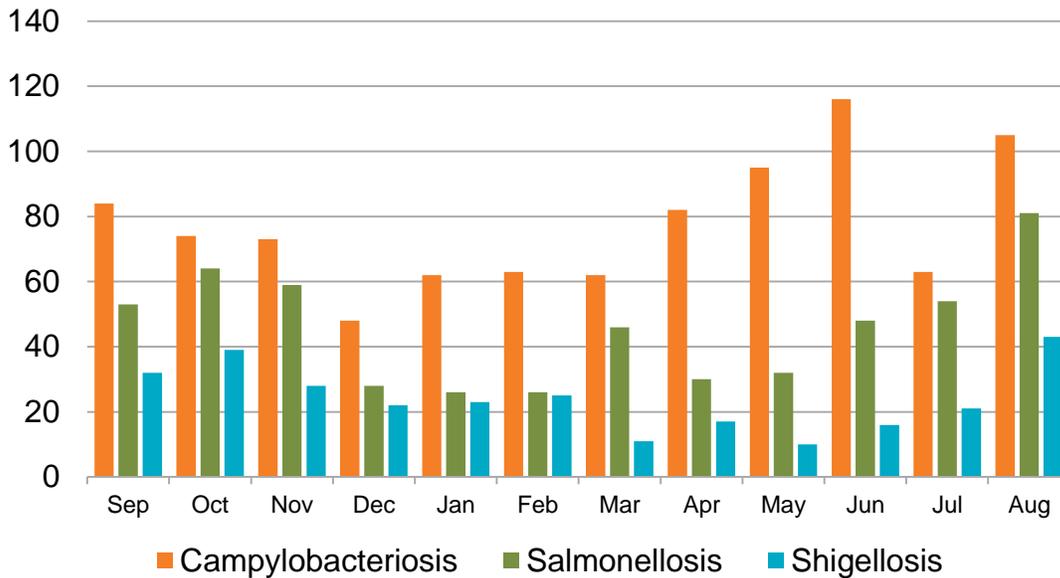


Table 1. Select Reportable Diseases		2017			Prior Years		
		Current Month	Prior Month	Year-to-Date (YTD)	2016 YTD	Avg YTD, 2014-2016	2016 Total
Disease and Case Inclusion Criteria (C,P,S)							
Amebiasis	C	0	4	8	3	25.0	5
Botulism (Foodborne, Infant, Wound)	C	0	0	2	4	1.7	5
Brucellosis	C	1	0	4	2	1.0	4
Campylobacteriosis	C	105	63	648	510	490.0	787
Chickenpox, Hospitalization or Death	C,P	0	0	1	2	1.7	3
Chikungunya	C,P	0	0	1	1	3.0	6
Coccidioidomycosis	C,P	12	13	99	87	91.7	158
Cryptosporidiosis	C,P	6	11	31	22	20.0	35
Dengue Virus Infection	C	1	1	10	10	6.0	23
Encephalitis, All	C,P	1	2	24	49	48.7	71
Giardiasis	C,P	24	25	230	235	193.7	398
Hepatitis A, Acute	C	86	82	418	19	13.0	26
Hepatitis B, Acute	C,P	0	1	9	3	6.0	3
Hepatitis B, Chronic	C	67	61	575	569	589.7	865
Hepatitis C, Acute	C,P	0	0	3	0	0.3	1
Hepatitis C, Chronic	C,P	323	305	1845	1848	1913.7	2581
Legionellosis	C	1	3	32	29	30.0	53
Listeriosis	C,P	2	4	12	14	10.0	22
Lyme Disease	C	0	0	4	7	8.3	10
Malaria	C	1	0	3	7	6.3	12
Measles (Rubeola)	C,P	0	0	2	0	4.0	0
Meningitis, Aseptic/Viral	C	18	11	76	93	144.7	140
Meningitis, Bacterial	C	1	4	16	38	24.3	54
Meningitis, Other/Unknown	C,P,S	1	1	11	24	25.7	29
Meningococcal Infection	C,P	1	0	2	0	2.7	2
Mumps	C,P	4	0	12	15	5.7	23
Pertussis	C,P,S	35	97	699	243	797.7	412
Rabies, Animal	C	1	1	12	3	3.7	7
Rocky Mountain Spotted Fever	C,P	0	0	2	1	1.7	2
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	81	54	343	335	355.0	535
Shiga toxin-Positive Feces (without culture confirmation)	C,P	3	5	12	11	6.3	15
Shiga toxin-Producing E. coli (including O157)	C,P	2	3	16	31	29.7	60
Shigellosis	C,P	43	21	166	123	96.0	243
Typhoid Fever	C,P	0	0	2	2	3.0	6
Vibriosis	C,P	13	6	35	23	26.0	30
West Nile Virus Infection	C,P	0	0	0	15	7.3	22
Yersiniosis	C,P	7	5	44	6	8.0	15
Zika Virus	C,P	1	1	10	49	17.0	83

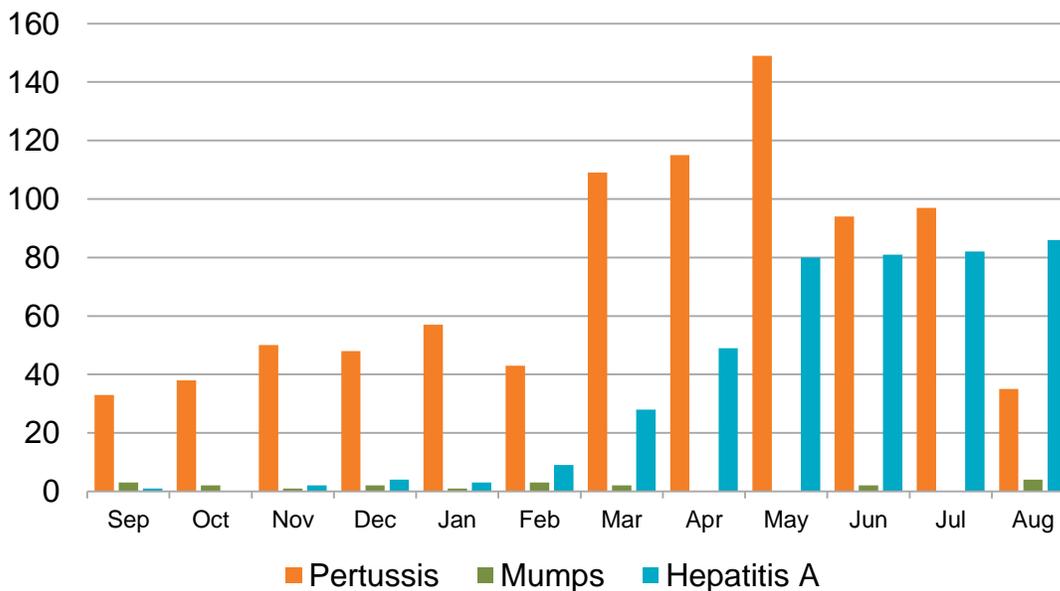
**Case counts are provisional and subject to change as additional information becomes available.** Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.



**Figure 5. Select Enteric Infections by Month  
September 2016 – August 2017**

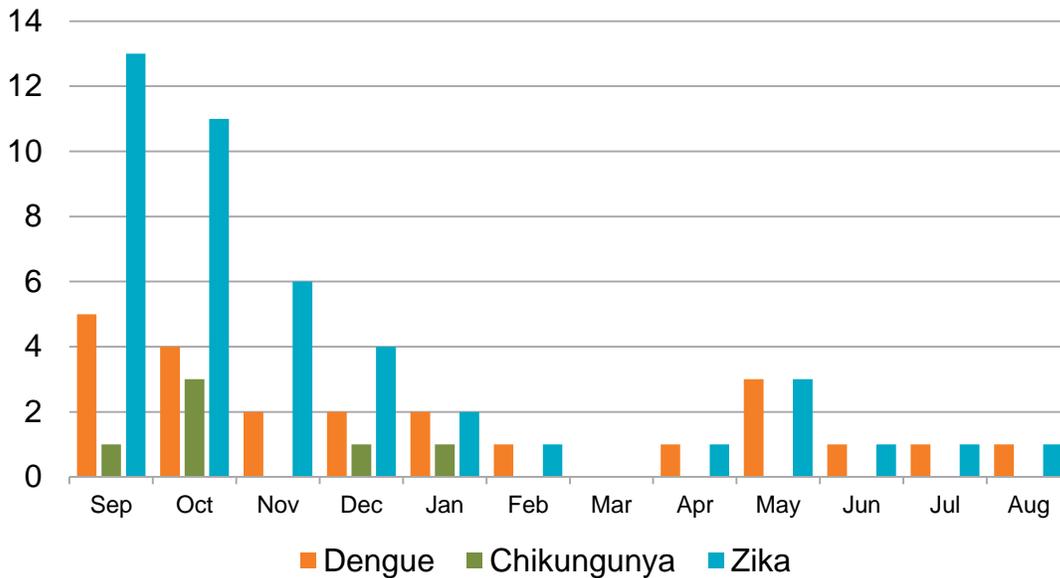


**Figure 6. Select Vaccine-Preventable Infections by Month  
September 2016 – August 2017**



**Case counts are provisional and subject to change as additional information becomes available.** Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.

**Figure 7. Select Vector-Borne Infections by Month  
September 2016 – August 2017**



All of these dengue, chikungunya, and Zika virus cases are travel-associated. For additional information on Zika cases, see the [HHSA Zika Virus webpage](#). **Case counts are provisional and subject to change as additional information becomes available.** Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.

### Disease Reporting in San Diego County

San Diego County communicable disease surveillance is a collaborative effort among Public Health Services, hospitals, medical providers, laboratories, and the San Diego Health Connect Health Information Exchange (HIE). The data presented in this report are the result of those efforts.

Reporting is crucial for disease surveillance and detection of disease outbreaks. Under the California Code of Regulations, Title 17 (Sections [2500](#), [2505](#), and [2508](#)), public health professionals, medical providers, laboratories, schools, and others are mandated to report more than 80 diseases or conditions to San Diego County Health and Human Services Agency.

To report a communicable disease, contact the Epidemiology Program by phone at (619) 692-8499 or download and print a Confidential Morbidity Report form and fax it to (858) 715-6458. For urgent matters on evenings, weekends or holidays, dial (858) 565-5255 and ask for the Epidemiology Program duty officer. For more information, including a complete list of reportable diseases and conditions in California, visit the Epidemiology Program website, [www.sdepi.org](http://www.sdepi.org).

Tuberculosis, sexually transmitted infections, and HIV disease are covered by other programs within Public Health Services. For information about reporting and data related to these conditions, search for the relevant program on the Public Health Services website, <http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs.html>.